

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 72695.

Port of *Newcastle-on-Tyne* Date of First Survey *31/3/19* Date of Last Survey *13/5/19* No. of Visits *9*
 No. in Reg. Book on the Iron or Steel *S/S Dennistoun* Port belonging to *Newcastle*
 Built at *South Shields* By whom *J. Readhead & Sons* When built *1919*
 Owners *Wenley Shipping Co. Ltd.* Owners' Address *Glasgow* Registered *Newcastle-on-Tyne*
 Yard No. *10* Electric Light Installation fitted by *Clarke, Chapman & Co. Ltd.* When fitted *1919*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo

Capacity of Dynamo *100* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *in Engine Room* Whether single or double wire system is used *Double*

Position of Main Switch Board *near Dynamo* having switches to groups *A, B, C, D & E* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *each light and group of lights provided with switches as required.*

If fuses are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch board to the cables of auxiliary circuits *Yes* and at each position where a cable is branched or reduced in size *Yes* and to each lamp circuit *Yes*

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*

Are the fuses of non-oxidizable metal *Yes* and constructed to fuse at an excess of *50* per cent over the normal current

Are all fuses fitted in easily accessible positions *Yes* Are the fuses of standard dimensions *Yes* If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit *Yes*

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases *Yes, slate and porcelain.*

Total number of lights provided for *147* arranged in the following groups:—

A Accommodation	72 lights each of	70-16 c.p. + 2-32 c.p.	candle power requiring a total current of	41.4	Amperes
B Cargo blusters	40 lights each of	32	candle power requiring a total current of	44.8	Amperes
C Engine Room	26 lights each of	16	candle power requiring a total current of	14.5	Amperes
D Navigation	9 lights each of	32	candle power requiring a total current of	5	Amperes
E Wireless	- lights each of	-	candle power requiring a total current of	25	Amperes
2 Mast head light with	1 lamp each of	32	candle power requiring a total current of	2.2	Amperes
2 Side light with	1 lamp each of	32	candle power requiring a total current of	2.2	Amperes
5 Cargo lights of	8 - 32		candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. *Yes*

Where are the switches controlling the masthead and side lights placed *in Chart Room.*

DESCRIPTION OF CABLES.

Main cable carrying	100 Amperes, comprised of	19 wires, each	14 S.W.G. diameter,	.094 square inches total sectional area
Branch cables carrying	41.4 Amperes, comprised of	7 wires, each	16 S.W.G. diameter,	.022 square inches total sectional area
Branch cables carrying	44.8 Amperes, comprised of	7 wires, each	15 S.W.G. diameter,	.028 square inches total sectional area
Leads to lamps carrying	1.1 Amperes, comprised of	1 wires, each	18 S.W.G. diameter,	.0018 square inches total sectional area
Cargo light cables carrying	9.6 Amperes, comprised of	19 wires, each	22 S.W.G. diameter,	.01148 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

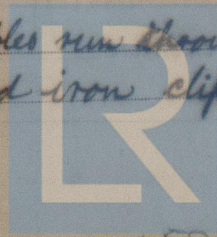
Vulcanized India Rubber, taped & braided & lead covered where exposed steel armoured overall.

Joints in cables, how made, insulated, and protected *No joints except mechanical ones.*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *Yes* Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *Yes*

Are there any joints in or branches from the cable leading from dynamo to main switch board *No*

How are the cables led through the ship, and how protected *Lead covered & armoured cables run through tween decks & clipped to underside of beams with strong galvanized iron clips.*



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & steel armoured cables*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & Armoured cables*

What special protection has been provided for the cables near boiler casings *"*

What special protection has been provided for the cables in engine room *"*

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in W. I. Glands*

How are cables carried through decks *in galvanized iron deck tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Lead covered & steel armoured cables*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected *—*

Where are the main switches and fuses for these lights fitted *—*

If in the spaces, how are they specially protected *—*

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *to W. I. connection Boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double Wire System*

How are the returns from the lamps connected to the hull *—*

Are all the joints with the hull in accessible positions *—*

Is the installation supplied with a voltmeter *Yes* and with an amperemeter *Yes* *fixed on Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *—*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *—*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *—*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light Installation fitted by us on this vessel and we declare that it is *safe and in good order and safe working condition.*

W. Walker Chairman Electrical Engineers Date *January 12th 1920.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *106 feet*

Distance between dynamo or electric motors and steering compass *100 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>.56</i>	<i>12</i>	<i>6</i>	<i>6</i>
<i>.56</i>	<i>6</i>	<i>12</i>	<i>12</i>
<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

FOR JOHN READHEAD & SONS, LIMITED.
Jas. H. Readhead Builder's Signature. Date *Jan'y 13. 1920*

GENERAL REMARKS.

The Electrical Installation is in accordance with the Society's Rules. It has been tested and found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

JWR
21/1/20

W. T. Badger
Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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